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## Nutrients

### Fact Sheet

United States  
Environmental Protection  
Agency

Office of  
Water  
4304

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### Ecoregional Nutrient Criteria

#### Summary

The United States Environmental Protection Agency (EPA) is publishing recommended water quality criteria to reduce problems associated with excess nutrients in waterbodies in specific areas of the country. EPA will work with states and tribes to adopt regional-specific and locally appropriate water quality criteria for nutrients in lakes, reservoirs, rivers, streams, and wetlands in seventeen ecoregions. States and tribes are expected to adopt or revise ecoregional nutrient criteria that are published in 2000 and 2001 into water quality standards by 2004. This is the first time EPA has issued regional specific nutrient criteria.

#### Background

Eutrophication of surface waters in the United States is a long standing problem. As much as half of the Nation's waters surveyed by states and tribes do not adequately support aquatic life because of excess nutrients. Nitrogen and phosphorus are the primary causes of eutrophication and resulting algal blooms. Chronic symptoms of overenrichment include low dissolved oxygen, fish kills, cloudy murky water, and depletion of desirable flora and fauna. Nutrient levels that lead to these problems vary from region to region due to geographical variations in geology and soil types. In order to better protect water quality, states and tribes need to take ecoregional variations into account when setting water quality criteria for a particular waterbody.

To better assist states and tribes in setting regional-specific water quality criteria, EPA is publishing national nutrient criteria for seventeen ecoregions across the country - criteria for eight ecoregions for lakes and reservoirs; eight ecoregions for rivers and streams; and one ecoregion for wetlands. These recommended criteria will be used to support the development of more localized, waterbody specific state and tribal nutrient criteria.

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### **Why is EPA publishing Ecoregional Nutrient Criteria?**

The national goals of the Clean Water Act are to achieve, wherever attainable, water quality which provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. As part of state and tribal water quality standards, the Clean Water Act requires states and authorized tribes to specify designated uses for their waters in consideration of these goals, and to adopt water quality criteria that protect those designated uses. EPA develops and publishes national guidance to help states and tribes set water quality criteria. This guidance usually reflects the latest scientific knowledge on the effects of pollutants on biological community diversity, productivity, and stability.

### **What are ecoregional nutrient criteria and how should they be used?**


The intent of EPA's recommended ecoregional nutrient criteria is to identify baseline conditions of surface waters that are minimally impacted by human activities and protect against the adverse effects of nutrient overenrichment from cultural eutrophication. Nutrient criteria are numerical values for both causative (phosphorus and nitrogen) and response (chlorophyll a and turbidity) variables associated with the prevention and assessment of eutrophic conditions. These recommended water quality criteria are suggested baselines which should be used by state and tribes to help identify problem areas, serve as a basis for state and tribal water quality criteria for nutrients, and evaluate relative success in reducing cultural eutrophication.

### **What are the activities related to these criteria?**

A Notice of Availability will be published in the Federal Register to provide the public with the opportunity to provide scientific views on the criteria documents. EPA will review and consider information submitted by the public on significant scientific issues and site-specific data that have not otherwise been identified by the Agency during the development of these criteria. EPA also will forward pertinent data submitted by the public to the Regional Technical Assistance Group which is developing nutrient criteria for a specific ecoregion. The criteria have been through external peer review, and a summary of these comments will be available on the Nutrient web site. EPA will develop ecoregional nutrient criteria documents for lakes and reservoirs, rivers and streams, and wetlands within the remaining ecoregions, as well as estuarine and coastal waters in the future.

### **What are EPA's expectations for these criteria?**

EPA expects that states and tribes will use these seventeen ecoregional nutrient criteria as a starting point to identify more precise numeric levels for nutrients needed to protect aquatic life and recreational or other uses on a site-specific or subregion-specific basis. EPA expects that more precise numerical levels will be developed on a smaller geographic scale than the ecoregional values presented in the nutrient



water quality criteria documents. States and tribes may also develop criteria using other scientifically defensible methods and appropriate water quality data or simply adopt EPA's recommended water quality criteria in their water quality standards in the absence of any better data. EPA expects states and tribes to develop a plan for developing and adopting nutrient criteria into state or tribal water quality standards within one year of publication of these recommendations and to adopt or revise numeric nutrient criteria into state and tribal water quality standards by 2004.

#### **How do I obtain a copy of the documents?**

For more information on the nutrient criteria, visit EPA's [nutrient criteria web site](#). Also listed on the web site is a map of the nutrient ecoregions and guidance manuals used to develop nutrient water quality criteria for lakes and reservoirs and rivers and streams. A copy of the ecoregional specific criteria can be obtained from the US National Service Center for Environmental Publications (NSCEP), 11029 Kenwood Road, Cincinnati, OH 45242 or (513) 489-8190 or toll free (800) 490-9198.

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URL: <http://www.epa.gov/waterscience/criteria/nutrient/ecoregions/factsheet.html>